IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A thermal processing unit comprising:

a holder that holds a plurality of substrates;

a reaction container into which the holder is conveyed;

a process-gas supplying mechanism that supplies a process gas into the reaction container;

a heating mechanism that heats the reaction container to conduct a film-forming process to the substrates when the process gas is supplied;

a flow-rate-parameter table-data storing part that stores flow-rate-parameter table-data associating number-data of the substrates to be processed by one batch-process with target-data of flow-rate parameter of the process gas; and

a controlling unit that obtains target-data of flow-rate parameter of the process gas, depending on an actual number of the substrates to be processed by one batch-process, based on the flow-rate-parameter table-data stored in the flow-rate-parameter table-data storing part, and that controls the process-gas supplying mechanism according to the obtained target-data[[;]], and

wherein the target-data of flow-rate parameter are determined in such a manner that a speed of the film-forming process is uniform among a plurality of batch-processes in which the numbers of substrates to be processed are different from each other; and

an arrangement table-data storing part that stores arrangement table-data associating the number-data of the substrates to be processed by one batch-process with arrangement-data of the substrates on the holder is provided, and the controlling unit is adapted to obtain arrangement-data, depending on the actual number of the substrates to be processed by one batch-process, based on the arrangement table-data stored in the arrangement table-data storing part, and to cause the holder to hold the substrates according to the obtained arrangement-data.

2.   (Original) A thermal processing unit according to claim 1, wherein

the difference between a minimum value and a maximum value of average film-

thicknesses of thin films formed on the substrates by the respective batch-processes divided by

respective processing times is 0.05 nm/min.

3.   (Original) A thermal processing unit according to claim 1 or 2, wherein

the flow-rate parameter is a flow rate of the process gas.

4.   (Original) A thermal processing unit according to claim 1 or 2, wherein

the process-gas supplying mechanism is adapted to supply a plurality of kinds of process

gases into the reaction container; and

the flow-rate parameter is at least one of a total flow rate and a proportion of flow rates of

the plurality of kinds of process gases.

5.   (Previously Presented) A thermal processing unit according to claim 1 or 2,

wherein

the flow-rate-parameter table-data are made based on experimental data showing

relationship between the number-data of the substrates to be processed by one batch-process and

the target-data of flow-rate parameter of the process gas.

6.   (Original) A thermal processing unit according to claim 5, wherein

the flow-rate-parameter table-data are made by interpolating the experimental data

showing relationship between the number-data of the substrates to be processed by one batch-

process and the target-data of flow-rate parameter of the process gas.

7.   (Previously Presented) A thermal processing unit according to claim 1 or 2,

wherein

the heating mechanism has a plurality of heating units which correspond to a plurality of

zones in the processing container;

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a temperature table-data storing part that stores temperature table-data associating the number-data of the substrates to be processed by one batch-process with target-data of temperature of the respective zones is provided; and

the controlling part is adapted to obtain target-data of temperature of the respective zones, depending on the actual number of the substrates to be processed by one batch-process, based on the temperature table-data stored in the temperature table-data storing part, and to control the heating units according to the obtained target-data.

8.   (Canceled).

9.   (Previously Presented) A thermal processing unit according to claim 1 or 2, further comprising

an adjusting unit that adjusts a flow rate of the process gas based on both the film-forming speed and a change of the film-forming speed per unit flow rate of the process gas, when the film-forming speed is out of a predetermined allowable range.

10.   (Original) A thermal processing method using a thermal processing unit including:

a holder that holds a plurality of substrates;

a reaction container into which the holder is conveyed;

a process-gas supplying mechanism that supplies a process gas into the reaction container; and

a heating mechanism that heats the reaction container to conduct a film-forming process to the substrates when the process gas is supplied;

the thermal processing method comprising:

a step of obtaining target-data of flow-rate parameter of the process gas, depending on an actual number of the substrates to be processed by one batch-process, based on flow-rate-parameter table-data associating number-data of the substrates to be processed by one batch-process with target-data of flow-rate parameter of the process gas; and

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a step of controlling the process-gas supplying mechanism according to the obtained target-data of flow-rate parameter of the process gas;

wherein the target-data of flow-rate parameter are determined in such a manner that a speed of the film-forming process is uniform among a plurality of batch-processes in which the numbers of substrates to be processed are different from each other.

11.   (Original) A thermal processing method according to claim 10, wherein the difference between a minimum value and a maximum value of average film-thicknesses of thin films formed on the substrates by the respective batch-processes divided by respective processing times is 0.05 nm/min.

12.   (Original) A thermal processing method according to claim 10 or 11, wherein the heating mechanism has a plurality of heating units which correspond to a plurality of zones in the processing container,

the thermal processing method further comprises:

a step of obtaining target-data of temperature of the respective zones, depending on the actual number of the substrates to be processed by one batch-process, based on temperature table-data associating the number-data of the substrates to be processed by one batch-process with target-data of temperature of the respective zones; and

a step of controlling the heating units according to the obtained target-data of temperature of the respective zones.